SATURDAY, OCTOBER 15, 1870.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON THE RADICAL CURE OF HERNIA.

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IT is not surprising that an affection so exceedingly common and involving so much inconvenience and danger to life as hernia, should have invited profound study and suggested many ingenious plans for its cure. Few subjects falling within the range of surgical thought can claim a more extended literature. The practical question with us to-day is *its radical treatment.*

Cases of hernia will meet you very often in the round of professional work. You will find it, in some of its varieties, in both sexes and at all periods of life, from infancy to old age, congenital and acquired. The usual forms encountered in practice are oblique inguinal, direct inguinal, femoral, and umbilical. All of these may be ranked among the list of curable diseases, if undertaken during the very early years of life. Umbilical hernia is quite common in infant children. It is the result, most commonly, of imperfect support by means of the usual swathing band over that point in the abdominal parietes traversed by structures belonging to fœtal life, or of habitual crying, or not unfrequently of hooping-cough, or of the straining attendant on certain intestinal disorders. These facts should be carefully borne in mind, and particular care exercised to protect a portion of the body not sufficiently solid, for some time after birth, to resist any unusual pressure from within outward. Cases of this nature, when they occur, can be cured with great certainty. A piece of cork or deal-wood cut into a plano-convex form, covered with a piece of chamois leather, and stitched to the middle of a band of stout muslin, will answer well as a truss. In its application, the convex surface of the pad is placed over the umbilicus and the extremities of the bandage are pinned or laced behind the body. I have sometimes secured the pad to a strip of adhesive plaster two and a half inches wide and attached to the body. The objection to this plan is in the irritation which the plaster sometimes produces on the delicate skin of the infant. Trusses which are easy of application are also prepared by all surgical cutlers. There is a natural tendency in the umbilical ring to contract and solidify, and all that is necessary is to maintain the support until this end is accomplished, the work, usually, of only a few months.

Now, in regard to infantile inguinal hernia the same may be affirmed,—the child is perfectly curable by a little mechanical assistance. Parents will frequently come to you with their children, to ascertain how soon they might venture to apply a truss, having been advised by their medical attendant to wait until the child is older. Every day of delay is precious time lost, and only makes the case less manageable, by increased dilatation of the passages. You cannot apply the truss too early. Let it be adjusted the moment the defect is discovered. The instrument should have a firm, smooth pad, and, as there is always more difficulty in fitting a child than an adult, patience and care must be exercised, both by physician and mother, until the result is satisfactory. The tendency to excoriation must not be overlooked. To avoid this, the instrument must be removed once or twice in the twenty-four hours, and the parts rubbed with a little alcohol until in a glow, after which the truss must be replaced. The habit of removing the instrument during the night is to be reprobated: it must be worn night and day. Sometimes the testicle fails to descend, and the canal is kept patulous, waiting the pleasure of the tardy gland, in which case a portion of intestine either accompanies or slips past it, forming a hernia. What then?—shall a truss be applied, and thus tend to farther detain or injure, by pressure, the organ? We say yes: better cure the hernia, especially as in most cases of this nature the testicle is atrophied.

In such cases, therefore, as I have been describing, I do not advocate any operation; on the contrary, I believe all such attempts, except under very extraordinary circumstances, unwise, if not reprehensible. It is, however, to hernia in persons of more mature years that I wish particularly to invite your attention; and I undertake to say that in one variety, and that a very common one,—oblique inguinal hernia, and where the passages have not been too much dilated, as in certain old and large ones,—the surgeon is justifiable in recommending an operation with a fair prospect of cure. This assertion is not only founded on what has been accomplished by others, but on personal experience and observation. It may not be uninteresting to make a hasty review of the methods which have been practised at various times. Like many other affections, it has proved a splendid field for the fruitless devices of quackery, in one instance, at least, managed with such adroitness as to secure from government a munificent endowment and the personal distinction of knighthood.

The membrane which immediately invests a hernia is called its sac, and consists of a portion of the serous lining of the abdomen. Celsus was in the habit of cutting down, excising this sac, and even removing the testicles. So common had this operation become at one time, that it is stated, on the authority of Dionis, that one of these specialists fed his dogs with the glandular trophies of his art.

A second mode, described by Galen, consisted in passing a ligature round the cord and sac immediately below the external ring, tightening the same, and causing all below to slough out, or facilitating the process by excision. A modification of this plan is described by Ambrose Paré, in which a metallic thread was carried about the sac and cord at the external ring, and twisted sufficiently tightly to close the sac, but not to cut off entirely the supply of blood to the testicle. Langenbeck cut down in the sac at the external abdominal ring, separated it from the cord, and ligated the former alone.

Again, the sac was laid open, and drawn together by a running stitch,—the *sutura regia*,—with a view to obliterate the hernial track.

The introduction of plugs of skin into the ring or canal constituted another method. This has been repeated in various ways. That adopted by Dzondi, its originator, was to lift a flap of integument contiguous to the external ring, and, opening the latter, insert the former, closing over it the wound. The late Dr. Jameison, of Baltimore, treated a case of femoral hernia in this way, with, however, only partial success. Gerdy extended the idea of Dzondi by invaginating, on his finger, the skin of the scrotum, with its subcutaneous connections, into the canal, the cuticle being removed by liquor ammoniæ, thus exciting inflammation and favoring adhesion. A compress was next applied over the parts and firm pressure maintained, in order to secure consolidation of the superincumbent layers. This plan was slightly modified by Signorini, who passed hare-lip pins across the canal,—thus impaling the plug,—and throwing around each pin figure-of-8 turns of thread. Wutzer maintained the invaginated plug with a cylinder of wood, in the centre of which was a canal for the passage of a needle. This needle,

when the instrument was pressed well up to the internal ring, was thrust forward and made to appear on the surface of the abdomen. A second piece of wood, having a hole at either end, was then laid over the skin in the course of the canal, the needle going through the opening at the upper extremity and a rod rising from the cylinder, with a thread on it, through the hole at the lower extremity. A screw was then run down on the rod, firmly compressing all the anterior layers of the canal together. Armsby, of Albany, substituted thread for the cylinder of Wutzer; Huchenberg, of Ohio, an ivory ball with a thread passed through it. Bonnet passed a pin across the sac close to the lower ring, and then, sliding pieces of cork along the needle from either end, compressed all the intermediate parts together. To secure these, the ends of the pin were bent down. Mayer, much in the same way, passed a double ligature and tied the ends over a piece of bougie.

Again, substances have been introduced into the sac in order to excite adhesive inflammation, as goldbeater's skin and cylinders of jelly by Belmas, the injection of Lugol's solution by Bowman, of Kentucky, and tincture of iodine by Professor Pancoast.

Wood, of Cincinnati, after returning the hernia, invaginates the skin of the scrotum with the finger, and, by means of a peculiar needle, pointed at either end and with an eye in the middle, passes a thread through the columns and ties it over a compress, approximating the sides of the ring so as to secure their union. A very ingenious operation has been devised by Mr. Wood, Demonstrator of Anatomy at King's College, London, and the author of a valuable treatise on rupture. It consists in dividing the skin of the scrotum and invaginating the subcutaneous tissue on the finger, raising, at the same time, the conjoined tendon. A needle is slid along the finger and made to penetrate the conjoined tendon and brought forward through the internal column of the external ring and also the skin. As soon as the eye appears, it is armed with a stout thread and the needle withdrawn, leaving the thread in the wound. The directing finger is now turned beneath the lower column of the external ring close to Poupart's ligament and well up opposite the internal abdominal opening. The needle is then conducted along the finger and made to transfix these structures and appear on the surface. A loop of the thread is left on the outside, and the needle drawn back, bearing the free end. Another passage is made through the triangular aponeurosis at the lower part of the rectus muscle, and the needle brought out on the surface and disengaged from the thread. It should be remarked that the final appearance of the needle on the surface is to be through the first puncture. A ligature so disposed embraces the conjoined tendon and the internal pillar of the external ring; the loop includes the external column, and the lower end of the triangular aponeurosis. A compress is placed over the canal, a thread secured across the same, and a Spica bandage applied. In his later operations, the metallic thread was used, and was deemed preferable to the silk or hempen one. Other operations have been proposed and executed, but in no material particulars differing from some of the methods already given in outline.

The present patient, aged thirty years, a sailor by occupation, has an oblique inguinal hernia on the left side. It descends into the scrotum, but is never large, nor are the passages very much dilated. He is free from cough, and, in my judgment, offers us an excellent case for a radical cure. I propose to adopt a plan which in seven cases I know to have proved successful. What I mean by success are cases in which after one year no return of the disease takes place, the patient during that time being engaged in his usual occupation. It is now six years since my first operation: that patient, so far as I know, unless something recent has occurred, continues well. Two cases cured—one a year and the other two years since—continue sound. In two other cases, performed by my friend Dr. Packard,—one now over three years and the other over two years,—no return of the hernia has taken place. Dr. Koerper, surgeon to the German Hospital, has furnished the notes of a case treated by him successfully, though time has not sufficiently elapsed to justify me in presenting this case as a success. Dr. A. G. Reed sends me the history of a case treated by this method which continues well, now one year and a half since the operation. The operation, if carefully executed, is attended with very little danger. In the case of a West India man whose hernia I treated by this method, death took place about ten days after the operation, from œdema of the larynx. There was no evidence, however, that the operation had anything to do with the fatal result, as he stated himself to be subject to similar attacks; besides, a post-mortem examination disclosed no abdominal trouble whatever. The steps of this method will explain themselves as we proceed. Let me exhibit, first, the implements necessary for the operation. This instrument resembles, in many respects, a bivalve speculum. It consists of two semi-cylindrical blades, three inches long, with handles five inches in length. The blades have each two grooves on the concave or inside, and a rod and screw at the extremity of the handles are designed to separate and so maintain the blades at the pleasure of the operator. Secondly, we need a stout needle, four inches long, mounted on a strong handle and with an eye at the extremity; and third, a shorter needle, three inches long, with a good wooden handle, and with an eye near its extremity. These, with an ordinary scalpel and some silver and silk thread, constitute the entire armamentarium. The parts are to be cleanly shaven, and the bowels freely moved, the day previous to the operation. The patient must be placed thoroughly under an anæsthetic, and the part carefully examined in order to insure the reduction of the hernia. An incision is carried two and a half inches down over the scrotum, beginning three-fourths of an inch below the external abdominal ring, and the skin carefully separated from the cellular and dartos tissue for some distance round. With the finger, this loose, raw structure, with the sac, is to be invaginated and thrust up through the external ring into the canal and well up to the normal situation of the internal ring. Next take the speculum, closed, and introduce it, as the finger is withdrawn, so that it shall maintain the plug of tissue in the canal as did the finger. Great caution is necessary in this step, that the instrument does not pass externally to the tendon of the external oblique muscle. Once assured that the instrument is securely in the canal, separate the blades by closing the handles, and taking the long needle bearing a silver wire, pass it along one of the grooves in the lower blade until it reaches the upper end, when it must be made to come out, through all the intervening structures, on the surface of the body over the internal ring. As soon as the point appears, unthread and withdraw the needle. The other end of the wire is next to be passed through the eye of the needle, made to traverse the other groove parallel with the first, and come out on the surface near to the first puncture. It is again unthreaded and withdrawn, when the two ends of the wire are pulled forward and twisted over a little cylinder of lint, thus maintaining the invaginated plug at the summit of the canal. This accomplished, the short needle is armed with a silk thread and passed across the canal between the blades of the instrument at three different points,—near the summit, at the middle, and just above the external ring. These threads are to be loosely tied, to prevent displacement. The speculum is now removed, a compress laid over the course of the canal, and a

Spica bandage applied with a moderate degree of firmness. This completes the operation. Now in regard to the after-treatment. This consists in keeping the patient rigidly in the recumbent position, on no pretence allowing him to rise, and exhibiting a sufficient amount of opium to secure rest and quietude of the bowels. In two or three days some suppuration will appear about the silk ligatures. They must after this be moderately tightened from day to day, until they have cut their way out by ulceration, which will require from twelve to sixteen days. The silver wire may be removed in seven or eight days. In from three to five days after the ligatures have come through, a gently-pressing truss should be applied and the patient allowed to walk about. The bowels need not be opened for six or eight days after the operation, when they may be moved every two or three days. The diet, after the first two or three days, may be liberal.

ORIGINAL COMMUNICATIONS.

ON THE USE OF SKIMMED MILK AS AN EXCLUSIVE DIET IN DISEASE.

BY S. WEIR MITCHELL,
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MY design in this and the brief papers with which I hope to follow it is to give my own experience in the use of skimmed milk as an alterative diet in certain cases of disease.

After reading Carel's paper, some years ago, I began to employ this very useful method of treatment, and since then have found repeated reason to congratulate myself upon the success which, in my hands, it has attained whenever the cases for its use were selected with discretion.

In dealing with the subject, I shall first make some general remarks upon the mode of using milk, and upon the effects observed in nearly all cases. Next, I shall relate histories of its employment in gastric disorders, in diarrhœa, in malarious and renal dropsies, and, finally, in nervous maladies. I hope to conclude with a study of the influence of the milk-cure upon the secretions and excretions. In following this path, I shall in some cases differ from Dr. Carel; but in general my views will be found to correspond with those held by this physician.

The milk is to be used as free as possible from cream; and if, as is generally the case in our cities, there is an abundance of ice to be had, I prefer to let the milk stand in a well-chilled refrigerator for twenty-four hours. It should then be carefully skimmed, after which it is fit for use. As Carel remarks, the quality of the milk goes for something, and perhaps, too, the surroundings,—since I have found persons who could not bear the treatment in a city, while in the country they throve under it admirably. As to temperature, it may be given warm—not hot—or cold, as suits the taste. In rare cases, where at first it caused nausea, I have had to use with it more or less lime-water during the first few days. In other instances the repugnance to its taste is a difficulty; and this may be overcome by faintly flavoring it with a few drops of coffee or with caramel. Other patients prefer to add to it a little salt; but, as a rule, I desire to give the milk alone as soon as possible.

Quantity.—The patient takes, to begin with, one or two tablespoonfuls on rising and every two hours during the day. When I followed Carel's rule of giving at once half a tumbler to a tumblerful (two to six ounces) four times daily, I found that few patients would bear it without nausea and early disgust. I increase each dose by a tablespoonful every day,—say three the second day and four the third day. Thus, if the patient begins at eight A.M., he takes, up to ten P.M., eight doses,—that is to say, about sixteen ounces. Now, this is the lower limit; nor have I been able, in the cases of females or delicate men, to give it more largely at first. Indeed, few women of sickly or sedentary habits are able to exceed, at any time, a pint and a half daily. After the fourth day it is best to separate the doses as you increase their amount, until they are taken at four equal intervals daily and the maximum quantity is attained. This varies greatly: I had one patient, a railroad contractor, who, living an out-door life of the most active kind, took daily for more than a year fourteen tumblers of skimmed milk, and this alone. Two quarts a day is the limit with most of my patients. I suspect, from Carel's account, that Russian patients must have more hardy stomachs.

Where people are well enough to live afoot, I have had little difficulty in the use of the milk; but in very feeble persons—and I have often given it to such—I have found it absolutely necessary to use with it, for a few days, brandy or whiskey, and even beef-soup, all of which I expect to abandon so soon as the patient can take milk enough to sustain his strength.

It is needless to say that for a patient to take steadily a diet of skimmed milk alone requires the utmost fortitude and all the moral aid which the physician can give. Carel thinks the first week the most difficult one, and this is usually the case; but sometimes the whole period of milk-use is one long struggle, even after we begin to allow a partial use of other diet. It is not, in these cases, hunger, but simply the craving for other food which tortures the patients. Most of them avoid the sight of food, in order to control their desires; and in one case I was much amused at a gentleman who said to me, in a guilty tone, "Indeed, doctor, I could not help it, but I stole an egg this morning."

Dr. Carel begins to alter the diet of milk after two or three weeks. I prefer to reach the latter limit before giving other food; but this, after all, is a matter for separate decision in individual cases. My own rule, founded on considerable experience, is this: Dating from the time when the patient begins to take the milk alone, I wish three weeks to elapse before anything be used save milk. After the first week of the period I direct that the milk be taken in just as large amount as the person desires, but *not allowing it to fall below a limit which, for me, is determined in each case by his ceasing to lose weight.* Twenty-one days of absolute milk-diet having passed, with such exception as I shall presently mention, I now give a thin slice of stale white bread thrice a day. After another week I allow rice once a day,—about two tablespoonfuls,—or a little arrowroot, or both, as circumstance may dictate. At the fifth week I give a chop once a day, and then, in a day or two, another at breakfast; and after the sixth week I expect to return gradually to a diet which should still consist largely of milk for some months. In children I sometimes use raw in place of cooked meat for a time; but grown people will rarely take it, although very often they are willing to take raw soup (Liebig's).

The symptoms developed under the use of milk are very interesting, and not all of them are told by Carel.

In no case have I seen any one gain weight during the first few days; but where the treatment succeeds the patient soon ceases to lose, and then slowly gains, in weight. This is usually the case in severe gastric and intestinal cases; but in some persons the loss of weight continues even after they are taking an amount of milk usually sufficient to sustain the body in an equilibrium. This is remarkably the case in very fat persons, who, as every one knows, are quite commonly small eaters. Taking three cases of dyspepsia at random (all women),

I find this record: The first lost in two weeks 14 pounds of a weight of 131; the second lost 18 pounds of 120; and the third, 11 pounds of 117, her total weight at the start. In another case, where the quantity of milk taken was two quarts daily, and the exercise small, the man lost weight steadily up to the time that I began to give bread, when the gain was immediate and speedy (case, diarrhœa). Mrs. S., æt. 47, weight 194 pounds, inactive, sallow, feeble, dyspeptic, and a very small eater, lost, in four weeks, 30 pounds, with general gain in strength and vigor.

The state of the skin has seemed to me to improve in old cases of chronic gastric or intestinal disease, but in others there has been no change. The urine, in a few cases, is somewhat annoying during the first week, the patient having frequent calls; but commonly no such complaint is made, although in certain dropsies I have found the milk to act strictly as a diuretic. The changes in the urine we shall have occasion to study in future.

The tongue is very apt to become furred, and to remain white and rough for two or three weeks, and in some cases so long as milk is taken; but so far is this from representing a disturbed state of stomach that the dyspeptic usually finds himself, after a few days, in the enjoyment of an amount of digestive comfort long a stranger to his viscera.

The stools begin to show the milk tint—a yellowish or salmon hue—after forty-eight hours, and when the milk disagrees they are apt to be loose, while usually they are intensely tough and constipated. This feature of the use of skimmed milk is at times most obstinate and annoying. After some weeks of creamless milk, I have often resorted, in such cases, to unskimmed milk, and with good effect; but it is quite clear that even this, in adults, may constipate, as it never does in the child. Carel says that a little coffee in the morning is often sufficient to relieve the bowels; and, where a small cup of pure coffee can be used, this is true. I give it without sugar. Later in the treatment, fruit, fresh or stewed, may be used; but, as a rule, I find that a little Saratoga water on rising, and a half-grain of aloes with a grain of ginger at night, will answer; or, if these do not, then an enema is required. In some cases this symptom is simply unconquerable by any constant treatment, and twice it has forced me to abandon the milk. In another case—a lady who undertook the milk-cure unassisted—I was sent for on account of violent rectal and sciatic pain which followed every effort at defecation. She said she had had a daily stool, which was true, but the amount passed was trifling, and her rectum was packed with feces so tough as utterly to defy injections until I had mechanically broken up the mass. The pulse is usually quickened until the milk-diet is large enough to sustain the weight unchanged when it falls again. In certain cases of hypertrophied left ventricle with palpitation of the heart, the immediate effect is to lower the pulse and quiet the heart. The temperature I have only noted in two recent cases. I shall speak of it fully in a future paper. The nervous system is not strikingly affected by milk. I have once only, in a very stout and hysterical lady, seen vertigo and faintness follow its use and forbid its continuance; but, as a rule, it is in such persons soothing alone.

Carel makes no mention of one symptom of which many patients have spoken to me: this is an intense sleepiness. It is common, but not universal, and soon passes away.

In this brief sketch I have told plainly my own experience; and this I shall now illustrate by cases,—only some few of which I shall relate in detail.

In no diseases has the value of milk-treatment been more clear than in certain instances of stomachal disorders. It is needless to add that I have quoted here only such instances as had proved rebellious to all ordinary methods.

T. C., æt. 14, a frail and pallid lad, employed as errand-boy in a sugar-refinery, where he contracted the habit of continually eating sugar. After some weeks he began to have sick stomach, and at length incessant vomiting, for which a variety of treatment was employed without relief. Finally it was found that he was able to keep down small quantities of milk diluted with equal parts of lime-water. The amounts taken were still too small to sustain life, and he wasted rapidly. At this time he fell under my care, and was at once put upon an exclusive diet of skimmed milk, taking two tablespoonfuls every two hours. The vomiting ceased at once, and as the milk was increased in amount and the interval lengthened he began, in a week, to gain weight. In two weeks he was doing well on a quart a day, and at the twenty-first day he began to take bread. At the fourth week a chop was added, and at the fifth week he went to the country. At this time he was gaining weight and color. He felt none of the gastric distress after the third day, but the sleepiness was well marked for two weeks. At the second week a slight return of emesis obliged him to lessen the dose for a few days. In him, as in most young people, the constipation was readily overcome by a rhubarb pill at bedtime.

Miss C., æt. 52. Has had, for a year, attacks of violent pain, which are referred to the pit of the stomach, or rarely lower. They had no relation to her meals, but were easily brought on by fatigue. The natural ending of these spells seemed to be in slight emesis, and for a long time the very least vomiting gave instant relief, which, however, ceased to be the case after a year, when the attacks had become as frequent as two to four a week. The most careful search discovered no gall-stones in the stools, and only once was there bile in the urine. The matter vomited was rarely the food, but only thin mucus, not acid, and containing no sarcinæ or other substance which cast any light on the case. Alkalies, tonics, —for she was very pale and feeble,—stimulants, acids, pepsin, arsenic, and bismuth were used in vain. Hypodermic injections and opiates internally alike failed. In this therapeutic despair—even change of air having produced no good result —I advised the use of the milk-treatment; and, as her case illustrates alike the value and the difficulties of this plan of diet, I conceive it to be very instructive.

At this time her attacks were of almost daily occurrence. The milk was given cautiously—a tablespoonful every two hours—for two days, when it was doubled. On the fourth day she took four tablespoonfuls at each dose, and at the same intervals, but was manifestly not losing weight, although weak. A little whiskey added thrice a day bridged over this trouble, and was abandoned on the seventh day. Up to this time she had no attack, nor had she any up to the beginning of the fourth week, when the milk was given up. The reason for this was twofold. Her disgust at the diet was unconquerable; nor was I able by slight changes to secure continued good results. More complete alteration of diet brought back the attacks. I yet believe that these difficulties might have been overcome; but in her the milk caused a constipation so utterly invincible that not even the most powerful purgatives or enemata were of any avail. Needless to say that, with the promise of so much good from milk, no means was left unused to enable her to take it, but all alike failed us, and I was forced, in this case, to confess myself beaten. Mechanical means were finally needed every few days to break up the tough rectal accumulations, and so the milk was given up. Her case was probably gastrodynia.

Somewhat like it, in certain respects, was the history of a man who was sent to me from Elkton, Maryland, by my friend Dr. Ellis:

About nine months before I saw him he began to have increasingly severe attacks of pain, which came on an hour or two after meals and lasted nearly up to the next meal. The pain was sharp, and was referred to the epigastric region and to the left side below the ribs. There was a good deal of wind, occasional acid stomach, and no tenderness anywhere; bowels

regular, urine high-colored, but free from albumen and depositing urates abundantly. He had been skilfully treated with a variety of drugs, but with no relief. On explaining to him the milk-diet, he professed himself able to carry it out. About two months later he returned to show himself, when I learned that he had lived on milk alone during the whole of this time, with immediate, enduring, and absolute relief from all his pains. He was then directed how to return to his usual diet. Several months afterwards I learned that he was still living partly on milk, and was well and vigorous.

Mrs. B., widow, æt. 33, had for years suffered from constant acid dyspepsia, for which she had been treated by several physicians, both at home and abroad. Her only relief consisted in the most careful choice of a minimum amount of food, and in the constant use of bismuth. She weighed 118 pounds, and was sallow and disfigured by an eczematous eruption.

During the first day of the milk-cure she took only one tablespoonful every two hours, and after this it was increased as I have described. In a week she was taking a little under a quart daily, and her weight was down to 114 pounds. A little whiskey was now added, and left off at the fifteenth day, when she was taking over two quarts of milk. The weight continued nearly steady up to the end of the third week, when she declared that even the perfect ease attained as early as the third day of the treatment was scarcely a compensation for the horrors of this exclusive diet. A little persuasion, however, enabled me to continue its use another week, when I began to give stale bread, and in a few days later venison. Her gain in weight from this time was strangely rapid, and five and a half weeks after we began the milk brought her up to 129 pounds, with a perfectly clear and spotless skin. The aloes pill and enema answered throughout to control her bowels.

It is now nearly a year since this time, but, despite her final abandonment of milk, she retains alike her good looks and comfort in digestion, having had in this time only one relapse, which yielded to a brief return to the diet.

I was very much struck, in another case, with the same remarkable improvement in the clearness and beauty of the skin which I have just mentioned.

Miss L., a young lady, æt. 20, of remarkable personal attractions, was seized with a violent attack of inflammation of the ileo-cæcal region, with the common accompaniments of intense pain, swelling, tenderness, and fecal accumulation, with violent vomiting. After a week or ten days the bowels were moved, and the attack subsided. The experience of several such illnesses finally taught me that the local use of ice over the diseased region, chloral internally, and no purgatives, for a week, gave the best and shortest curative result; but by this time the attacks recurred so easily and her general health had so suffered as to make some permanent relief imperative. At this period all the usual alteratives had failed to effect this end, and she was wasted, thin, and excessively sallow, with dark stains beneath the eyes. During three weeks only she took the milk, and I was then obliged by her urgency to add a chop daily. The effect of this diet was, both to me and to her friends, astonishing, in the sudden gain of weight and in the return of clear and delicate skin-tints. No less marked were the ease of digestion, previously much impaired, and the total disappearance of the hardening about the ascending colon. The bowels, somewhat to my surprise, were easily managed by a little rhubarb twice a day. In this case I did not hope for permanent relief save by six months of milk-treatment. So soon, however, as she felt well, I found it impossible to secure a continuance of its use, so that after some months I was not surprised to see her in a new attack. The case has value chiefly as showing that, with a tendency to a constipative disease, milk may still be used, and is illustrative of the profound change which milk sometimes effects in the nutritive system.

The above cases, selected for various reasons, are merely representative of difficulties or successes, and it would be quite possible for me to multiply either class. Suffice it to say that in old and unmanageable cases of dyspepsia, and in neuralgic disorders related to the gastro-intestinal viscera, the treatment by milk has been sometimes a reliable resource when without it I must have been in therapeutic despair.

EXOPHTHALMIC GOITRE.

BY J. J. CHISOLM, M.D.,

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WHILST general attention is being drawn to a disease the pathology and causes of which are unknown, cases which differ from an assumed type should be carefully noted. When these become sufficiently numerous, their symptoms can be analyzed and useful deductions obtained. Exophthalmic goitre is one of these obscure diseases now under investigation, its curiously combined symptoms of heart-disturbance, thyroid enlargement, and protrusion of the eyeball remaining, up to the present, unexplained. The disease is an insidious one, usually of slow approach, and of very chronic tendency,—the unsightly and annoying protrusion of the eye being a very persistent symptom.

The first prominent symptom—often the precursor of all the others, and said to be always present—is rapid and forcible cardiac action, with tumultuous palpitation from the least excitement. The frequency of the pulse is rarely below one hundred beats per minute; and the great nervous excitability of those affected, with the accompanying irritability of temper, nearly doubles the heart-beats upon trivial provocation. Organic disease of the heart is found only exceptionally. In some cases there may be hypertrophy of the organ, with atheromatous deposit in the vessels, but most frequently the cardiac disturbance is purely functional, and the persons afflicted are young chlorotic women with irregular or suppressed menstruation. The implication of the heart is so very constant that it is called the invariable symptom, and to many observers is a sufficient explanation of the enlarged thyroid gland and the undue prominence of the eye,—being, in fact, the point of departure of all the accompanying symptoms, and the key to the phenomena.

The goitrous affection involves, ordinarily, the entire thyroid gland, but either lateral lobe may alone undergo enlargement; and, although this hypertrophy is a very common complication, it is not invariably present. The protrusion of the eye is not commensurate with the size of the thyroid gland. In cases in which the exophthalmos is very marked, the thyroid enlargement may be scarcely perceptible; and, again, in cases of huge goitres there may be no eye-symptoms.

The prominent eyeball, with its frightened stare, is the symptom which attracts most attention. At times it protrudes so much from the orbit as to expose the greater portion of the spherical globe. This protrusion is rendered more conspicuous by the retraction of the upper lid, which widens the palpebral fissure and exposes more of the sclerotic. This blepharitic retraction, with dilatation of the pupil, is recognized as a very early symptom, and is supposed to indicate the neuropathological character of the disease, an abnormal condition of the sympathetic,—H. Müller having detected unstriped muscular fibres in the upper lid which receive nerve-influence from the sympathetic. The protrusion of the eye affects vision by stretching the optic nerve, and mechanically interferes with the movement of the ball. Ulceration of the cornea and destruction of the organ sometimes occur.

The following secondary symptoms in exophthalmic goitre are of greater or less frequency: Chloro-anæmia is nearly always present; also dyspepsia, with general debility and emaciation, with buzzing in the ears, dizziness, and fainting-spells, headache, vomiting, and deranged bowels. In females—by far the most frequent subjects of exophthalmic goitre—there exists disturbed or suppressed menstruation. The face is often flushed, with increased temperature, and local sweating, restricted to one side when only one eye protrudes.

These various symptoms, which are more or less prominent, have from time to time attracted the attention of pathologists. Basedow, who in 1840 gave us the first succinct account of this disease, supposed chlorosis and serous effusions to be the cause. Piorry explained the phenomena as sequelæ of heart-disease, with consequent interference to the returning circulation,—hence protrusion of the eyeball through congestion of the orbital vessels. More recent observers, among whom are Trousseau, Remak, Recklinghausen, Friedrichs, and Graefe, consider exophthalmic goitre a disease of the sympathetic nerve, either excited by reflex disturbances from distant organs, as the uterus, etc., or by organic changes in its cervical ganglia, or by paralysis of the vaso-motor fibres coursing with the sympathetic. In autopsies, careful examination has exhibited the cervical ganglia of the sympathetic sometimes enlarged, at other times atrophic, and again apparently devoid of pathological changes, even under high magnifying powers. In some of these bodies the eyes have after death resumed their normal position, whilst in others the eyeballs continue to protrude, and in such the connective tissue which fills the posterior portion of the orbit has undergone hypertrophy.

In the following case, most of the so-called invariable symptoms were wanting, making serious breaks in the chain of phenomena:

Miss A., aged 19, stout and strong, has noticed for the past five months that her neck was getting large, and that the right eye was acquiring an ugly stare. These symptoms were not connected with any special bodily derangement, nor has she suffered in any way. Her present condition is as follows: she looks pale, although she is very stout and never complains of fatigue; she states that she has never had a color, and that she can walk many miles without any sensation of fatigue. Her digestion is good; she has a good appetite, is not troubled with constipation, and menstruates with great regularity, with a uniform loss and without pain. She has never suffered from cardiac palpitation; her heart-sounds are clear, pulse full and strong, 85 beats to the minute. She has never had flushings of the face, nor unusual sweating; the thermometer, carefully tried, detects no increased temperature. The right lobe of the thyroid gland is double the size of the left, although it is not conspicuously prominent. The right superior eyelid is pinched up, which prevents it from covering the protruding eyeball. When she looks up to the ceiling, the right superior lid is hidden completely by the orbit; when she turns the eye towards the floor, the lid does not cover more than one-half the exposed portion of the eyeball. When she tries to cover completely the protruding ball, the right superior lid quivers incessantly. The movements of the eyeball are somewhat impaired, the pupil is enlarged, but sight, for both near and distant vision, is perfect. Ophthalmoscopic examination shows no abnormal fulness of the retinal or choroidal vessels.

In the above case the exophthalmos and goitre of the corresponding side of the body appeared and progressed simultaneously, but all the other symptoms so marked in by far the majority of cases—viz., cardiac, uterine, gastric, and cerebral complications, and debility—were wanting.

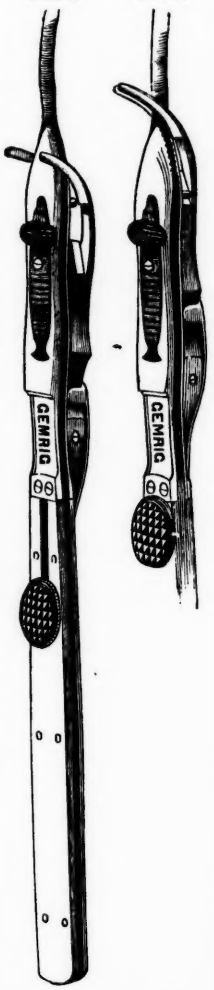
TORSION FORCEPS

FOR ARRESTING ARTERIAL HEMORRHAGE.

BY ADDINELL HEWSON, M.D.,
Surgeon to the Pennsylvania Hospital.

THE decade of years which has passed since the late Professor Simpson first made known his proposal to employ Acupressure instead of the Ligature as a means of arresting hemorrhage from large vessels has furnished an experience of that measure sufficiently ample and satisfactory to dispose many surgeons to look with considerable favor on the revival of Amussat's notion to use torsion for the same purpose. With the revival of this notion have come many suggestions of modifications in the process, with the view of increasing its efficiency. One of the most attractive and plausible of these has been that of employing a preliminary division of the middle and internal coats of the artery, similar to that effected with the ligature, by means of a pair of forceps made for the purpose,—a plan which, I believe, originated and has been well tried in London. My own experience in the use of this modified form of torsion has been most satisfactory; and the purpose of this communication is to briefly call attention to a pair of forceps which I have devised and found to answer admirably for the purpose, in doing away with the necessity of using both hands. They consist (Fig. 1) of four blades, one set being broad, flat, and well rasped, with a sliding catch in the vicinity of their points. These blades are for seizing the bleeding orifice, and when their catch is fastened will hold the vessel firmly, and allow of its being drawn out from the surrounding tissues, if desirable. All these steps being accomplished, the other—the curved—set of blades are to be slid forward by pressure on the broad button in the handle of the instrument. By continuing the pressure on this button, these blades will not only be thrust beyond the ends of the other blades, but, by means of the bevelled slot in each of them becoming wedged on the pins to be seen on the under surface of the straight blade on which they slide, they will, when their ends are beyond the other set, be forced together so firmly as to completely sever the middle and internal coats of the vessel at the point where the torsion will be most positively exerted afterwards. The margins of these blades are rounded, where they so come together, to the size of the ordinary silken ligature, and when they have done their work the blades are to be withdrawn: their effect on the artery can then be readily seen. The next step in the procedure is to twist the vessel. This is readily done by rolling the instrument on its axis. Two or, at the utmost, three complete rotations of this kind are all that is required, and the instrument may be removed at once, without the least fear of the occurrence of any bleeding. I speak with confidence on this point, as I have used this mode of arresting hemorrhage several times on vessels as large as the adult brachial and tibial arteries. The essential feature of these forceps is the mechanism by which the curved blades are thrust forward along the edges of the flat blades, made to compress, in a thorough manner, the vessel, and are then withdrawn to their original position before the torsion is commenced. This mechanism does not consist alone in the bevelled slot and pins before alluded to, but also in the manner in

FIG. 1. FIG. 2.



which the blades are moved forward and back again, which is not by a rod connected with the button at one end and firmly fastened to the forceps at the other, but by a flat bar passing over the head of the forceps and then bifurcated so as to embrace the blades in their springy portion, but not fastened to them. This sliding bar has so much freedom that it causes the blades to be compressed and thrust forward when pushed towards the point of the forceps, and to free them from such compression and draw them back when pressure is made on the button in the opposite direction.

ON PERMANGANATE OF POTASSA.

BY B. HOWARD RAND, M.D.,
Professor of Chemistry in Jefferson Medical College.

THIS compound having become a popular "new remedy" with many practitioners, and having undoubtedly valuable as well as dangerous properties, I propose to discuss these in a few words.

The chemical nature of the salt need not be dwelt upon. Its method of preparation, with the chemical changes involved, will be found in the U. S. Dispensatory. It is enough to say that it is, perhaps, next to chromic acid or chloro-chromic acid, the most active oxidizing agent known. In contact with reducing agents or organic matter, it is instantly decomposed, becoming reduced to black oxide of manganese and caustic potassa. The oxygen given off appears to be, in great part, in the form of ozone, and rapidly attacks and burns up all varieties of organic matter, although some resist longer than others.

In consequence of this power of oxidation, it has been largely employed externally as a detergent and deodorizer, and internally in diseases in which an oxidizing agent is supposed to be indicated.

As to its value where used internally there is abundant testimony, yet, I fear, but little evidence. The enthusiasm with which a new remedy is employed by the practitioner seems to give faith to the patient, and "cures" follow which are properly recoveries. The same is true of secret remedies, which, however apparently successful, are generally abandoned when their true nature becomes known.

From its caustic character, permanganate of potassa is necessarily used internally in small doses,—that is, about half a grain. One grain of the salt is supposed by the chemist to be decomposed by five grains of ordinary organic matter, or half a grain by two and a half grains of the same. Suppose the permanganate to be given in solution in distilled water, the mixture made in absolutely clean vessels and dispensed from the same,—conditions very rarely fulfilled in practice,—we have the chance of its not meeting with two and a half grains of organic matter in its passage to the stomach. Then, considering the organic contents of the stomach, and the fact that the tissues themselves are acted upon, we see how utterly impossible it is that any of the permanganate shall enter the circulation, there to give up its oxygen.

Moreover, as its color and taste, when in solution, are objectionable to most patients, some practitioners exhibit it in pill, in which form it is, in most cases, decomposed before it is swallowed. Dr. C. M. Fenn published, in the *Pacific Medical and Surgical Journal*, in 1867, a paper, which was largely copied, and is noticed in *Ranking's Abstract*, xlvii. 18, lauding the virtues of the permanganate in rheumatism, and giving successful cases. He gave half-grain doses in *raspberry syrup*. He believes that it converts lactic into carbonic acid. He certainly did not administer permanganate of potassa. Whether the black oxide of manganese and caustic potassa, which the patients did swallow, would convert lactic into carbonic acid, or otherwise cure rheumatism, we cannot say; but it is, at least, not probable.

For external use in many surgical cases, the permanganate of potassa possesses much value as a stimulating and deodorizing application. We owe to Mr. Condy, of London,* its introduction as a deodorizer. It is highly efficient, and at the same time is itself without smell. There are, however, a few practical points connected with its use which seem to be often neglected. It should not be applied to bandages or dressings, as it is decomposed by the organic matter of the fabric, and is lost; at the same time the dressings are discolored and rotted. It should not be applied with a sponge, for the same reason. Shallow dishes, containing a strong solution,—about one or two ounces to the pint,—allowed to stand in the sick-room, will be of much use in removing foul smells. It is not adapted to solid filth, although highly efficient, on account of the quantity required and consequent expense, but may be used with excellent effect in chamber-vessels, etc., after they have been emptied and rinsed.

A word as to economy. One ounce of the crystallized salt costs about as much as a pound of the crude, which is just as good for deodorizing purposes. The crude gives a greenish solution, which even while cold, but more rapidly and completely upon boiling, passes into the deep red so characteristic of the permanganate, and is fit for use.

As a test for organic matter in air and water, its accuracy has been called in question, on the ground that it does not attack all kinds of organic matter with equal facility,—some, as starch, resisting its action for a long time. It must be admitted, however, that it is, at present, the only *practical* test that we have, and certainly shows very rapidly and clearly the presence of *hurtful* organic matter in water or in air. It can be applied by any one, it being only necessary to use a weak solution; the disappearance of the color indicates the presence of organic matter. In time of epidemics, such as cholera or dysentery, this test might be of much value in singling out the contaminated from the pure water. It is perhaps well also to recall the fact that this test forms the readiest means of purifying foul water. If added until the water acquires a permanent faint pink tinge, we are certain that injurious organic matter has been destroyed. Then, as Condy suggests, if a piece of clean stick be put into the liquid, or if a little tea or coffee be added, the pink color will disappear, and the water will be fit for use. The very small amount of potassa remaining in solution could not possibly do harm, as in any ordinary case it would not amount to one-hundredth part of a grain to the gallon.

NOTES OF HOSPITAL PRACTICE.

PHILADELPHIA HOSPITAL.

POISONING FROM 460 GRAINS OF HYDRATE OF CHLORAL.

SERVICE OF J. L. LUDLOW, M.D.

Reported by Emory Eshelman, M.D., Resident Physician.

AT 5½ o'clock in the morning of September 18, Mrs. B., a nurse in the Women's Medical Ward, was found in a deep sleep, from which she could only with very great difficulty be even partially awakened. Thirty grains of ipecac. were immediately given, under the supposition that some dangerously narcotic dose must have been taken. As this failed to produce emesis in ten minutes, an attempt was made to administer a mustard emetic, but she could not be forced to swallow it. At 6 o'clock the respirations were 35 in the minute, and heavy and stertorous; the pulse was quick and

* Air and Water, their Impurities and Purification. London, 1862.

frequent, numbering 140 in the minute. The face was somewhat flushed, and the extremities cold and livid. No change was observed in the pupils, except that under the influence of light the left one contracted, while the right seemed scarcely affected. A bottle marked "Hydrate of Chloral," which was known to have been full only a few minutes before the occurrence of the alarming symptoms, was now discovered nearly empty. Suspecting this medicine to be responsible for the woman's condition, she was transferred to a chair, mustard poultices were applied to the extremities, and vigorous flagellation was resorted to. This severe treatment was pursued for nearly one hour before the least sign of returning consciousness was appreciable. She now endeavored to raise her hand to her face, which I was slapping with my hand. Before this time every muscle was *most completely* relaxed. Another indication of approaching consciousness was an occasional moan, which the flagellation would draw from her; but the moment the treatment was discontinued she sank again into the most profound slumber. At this juncture a very powerful faradaic current was applied along the spinal column, the course of the phrenic nerve, and to the chest. As soon as the poles came in contact with her body, she showed symptoms of discomfort, by writhing and moaning as before. After continuing this mode of treatment for half an hour, she began to open her eyes at short intervals, and with some difficulty made us understand she was suffering; but the moment the poles were removed she sank again into the deepest sleep. At 9 o'clock it was observed that when the poles were applied she endeavored to get off the chair and away from the object causing her suffering. The assistants were now directed to try to make her walk, with one on each side to support her and another behind to stimulate her vigorously with the palm of the hand. She made some effort to walk, but with a very staggering gait, requiring all the strength of the assistants to keep her from falling to the floor. The application of the battery and attempts at walking were continued alternately for two hours, at the end of which time (11 A.M.) she had so far recovered as to be able to walk unaided and to converse in an intelligent manner. A small quantity of whiskey was now given, and soon after a good drink of beef-tea, containing a considerable amount of capsicum. Considering that it would now be safe to allow her to sleep off the remaining effects of the narcotic, she was put to bed, and slept soundly from this time until 6 P.M., being easily awakened at intervals of an hour or two for the purpose of receiving nourishment. She soon fell asleep again, and remained in this condition until the following morning, when she awoke, feeling quite sore, and with a slight headache, but otherwise very comfortable. There was no sickness of the stomach or constipation of the bowels following. Her statement is that, having been up all night nursing a patient with delirium tremens, she went to the ward office, about 5 A.M., in search of something to relieve a headache under which she was suffering, and, finding the solution of chloral, drank the greater portion contained in the bottle. She immediately felt a burning sensation, and swallowed some water to relieve it; beginning to feel faint already, however, she endeavored to reach her bed, but, according to the statements of those around her, fell to the floor before reaching it. She remembers distinctly going to her ward, but nothing after that until recovering at 11 o'clock the following morning. She has no knowledge whatever of either the flagellation or the application of electricity. The bottle from which the dose was taken contained 10 drachms and 2 scruples of hydrate of chloral, dissolved in 4 ounces of cinnamon water, and had been brought from the drug-store only the previous afternoon. One of the physicians used 6 fluidrachms of the solution, containing 120 grains, for some of his patients, but no more was taken by any person, except this woman. She left in the bottle only 3 fluidrachms, containing 60 grains of chloral, each fluidrachm of the solution corresponding to 20 grains. Supposing, then, that she swallowed the rest of the four fluidounces (and it is safe to presume she did, from her own statement), she took at least 460 grains of hydrate of chloral. Her pulse was carefully watched throughout, and at the time when she seemed to be most thoroughly under the influence of the poison it was wholly impossible to be counted, so small and frequent was it. As the stupor became less marked, the pulse gradually approximated towards normal frequency, remaining at 100 beats per minute at 11 A.M.

The treatment above described was adopted on account of the resemblance between the symptoms present and those which result from an overdose of opium or some of its alkaloids; and from the threatening condition which was developed in this patient by this large dose of chloral, it seemed as though her sleep would have passed into the sleep of death, had it not been for the timely application of faradization and vigorous flagellation. At the time of the occurrence of the case, I was not aware of the existence of any supposed antidote for the hydrate of chloral.

SURGICAL CLINIC, SATURDAY, SEPTEMBER 10. SERVICE OF DR. BRINTON.

The lecturer exhibited and commented upon the following cases:

1. A case of acute synovial inflammation of the elbow-joint, occurring in a man aged 21. The treatment which had been successfully pursued in this case consisted in the persistent application of cold, according to the following plan: The affected joint, first having been protected by a double layer of flannel, was placed between two bladders, each half filled with crushed ice. These bladders were allowed to remain for four or five hours at a time; they were then removed for an hour, at the expiration of which period they were again placed in position. This treatment was continued for six days, with the result of subduing the inflammation of the joint. The condition of this patient prior to the application of the above dressing was threatening. The agony of the affected joint was intolerable; sleep, even under the exhibition of strong anodynes, was almost impossible; and the symptoms of constitutional irritation were marked. The effects of the cold dressing were immediate and most happy: the local pain ceased; the patient slept; and the constitutional symptoms commenced to diminish. The great value of this dressing, the lecturer stated, had been abundantly manifested during the late civil war, in the treatment of gunshot and other injuries occurring in the vicinity of, or involving, the larger joints.

2. A case of mastoid abscess in a negro man aged 20; treated by incision.

3. Extra-capsular fracture of the femur in a woman of 54. This patient had fallen from a stool, striking upon her hip. The symptoms of the injury were well marked, viz.: swelling and contusion of the hip, shortening of the limb to an extent of one and one-quarter inches, slight shortening of the femur, eversion of the foot, and rotation of the trochanter major over a shorter arc. The differential diagnosis of this case was explained to the class.

[This patient died a few days subsequently, and on post-mortem examination an extra-capsular fracture of the femur, involving the trochanter major, was found.]

4. Phagedenic ulcer of the buttock and vulva, in a woman of 26; treated locally by nitric acid, and internally by the potassio-tartrate of iron.

5. A case of recto-vaginal fistula in a woman of 40. This woman contracted a vulvar chancre some months since, and has now secondary syphilis. She suffers also from a recto-vaginal fistula, but does not seem able to furnish any particulars as to its development. Upon examination, a small fistulous opening can be detected upon the posterior wall of the vagina, about two inches from the external orifice. This fistula communicates with the rectum, rather more than half an inch above the external sphincter, and the track also opens externally upon the perineum, about one and a half inches from the margin of the anus. The operative treatment in this case consists, in the first place, in the destruction of the anal portion of the fistula; and secondly, in the obliteration of its opening into the vagina. The lecturer now inserted a seton through the anal fistula, preferring this to its immediate division by the knife, in consequence of the great thickness of the tissues. He stated that so soon as the seton should cut its way nearer to the surface it would be removed and the remaining tissues would be incised. Subsequently he proposed to pare the edges of the vaginal fistulous orifice, to insert one or two stitches, and thus attempt to procure union and effect a permanent cure of the case.

[A few days later the seton was removed, and the rectal wall divided. The wound was then packed with lint.]

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EDITORIAL.

THE MORDAUNT DIVORCE CASE.*

THIS is the trial, our readers may remember, that ministered so strongly, a few months since, to the prurient curiosity of all that part of the English public to whom a scandalum magnatum would be a superlative delight. With the moral aspects of the case, of course, we have no concern; but it involves some medical problems that are well worth our attention.

It was a suit for divorce, brought by an English baronet for adultery on the part of his wife, a young and handsome woman, with many admirers. The petition was met by the plea that when the citation in the suit was served upon the respondent—namely, the 30th April, 1869—the respondent was not of sound mind, and never had been since. The petitioner took issue on that plea, and that was the issue actually tried. The trial presented much less of that irreconcilable testimony and conflicting medical opinion that have become much too common for the credit of the profession, but a result that is burdened with infinite doubt and perplexity, arising not so much from the inherent difficulty of the subject as from a deficient disclosure of the facts, which seems to be partly intentional.

It appears that Lady M. was confined on the 28th of February, 1869, and that two days after, she declared to the nurse that the child was not her husband's, but Lord Cole's. This statement she repeated to others shortly after, and to her husband, telling him that "she had been very wicked; that she had done wrong with Lord Cole, Sir Fred. Johnstone, and the Prince of Wales, and others, and in open day." On the strength of these statements, which were confirmed by other evidence, her husband sued for a divorce, and the trial came on, February 16, 1870. As just stated, the actual issue was her mental condition on the 30th April, 1869, the day when the citation was served. The requirement of the law would be answered by proving that she was insane at that time; but her own reputation required that she should be shown to have been insane when she made the statements in question.

No one was disposed to deny that, at the time of the trial, Lady M. was, and had been for several months, unequivocally and extremely insane. The evidence was very strong, though not undisputed, that such also was her condition in July, August, September, and October. In regard to her mental condition previous to that period, and especially in March and April, the evidence was conflicting, but more in respect to opinion than to matters of fact.

Dr. Priestly, Dr. Tuke, Sir James Alderson, Dr. Gill, examined her in the month of May, and several of them again in July. Dr. Burrowes saw her in July, and from May till August she was attended by Dr. Harris. These gentlemen all concurred in the opinion that Lady M. was clearly insane; and if this opinion were fortified only by their acknowledged professional eminence, we could hardly question its correctness; but the indications of disease which they mention place it beyond a doubt. She conversed with them at first in monosyllables, and then refused to reply at all, sometimes "bursting into a silly laugh." "She could understand nothing but the simplest things." "She seemed to have no power of mind at all." "She had a singularly absent expression, and would often burst into a meaningless laugh without any cause." "She complained of her teeth; but when asked to show them she kept her mouth shut." "Alluded to her unfortunate position, but could make no impression on her mind. On one occasion pressed her very earnestly on that point, and asked what she thought was best to be done. She turned around and said she thought a dose of castor-oil would put it all right." "I spoke of her child, her husband, and of the condition she was in before the world. I might as well have spoken to a piece of wood." "She had a delusion that there were dead bodies in the room." "She thought she had been poisoned." "She also had a delusion as to her husband's absence." Her "lady companion" during this period testified that in taking food she would use her fingers; that when out walking she would pick up dirty articles—dried mud; that she showed a total want of modesty; that she would go about the house with scarcely anything on; that she was dirty in her habits, and had to be washed like a child; that sometimes she would not speak for days; that she constantly walked about the house at night, and went into other rooms; that she went into the servants' rooms, until they were ordered to lock their doors day and night; that she once escaped with nothing on but a pair of stockings, slippers, an opera-cloak, and a muff, and went into the drawing-room; that she was bribed with pennies to go quietly to bed; that when driving out she asked the driver of the fly to lend her money to pay himself; that once when she had a headache she put a cologne-bottle to her feet and sat in that way; that she believed there was a plot against her and she had discovered it in a miraculous manner. Another witness, her personal attendant, testified to many of these facts, and some others, viz.: that she generally refused to take food, thinking it poisoned; that when driving out she would laugh very much and lean out of the carriage and spit; that she thought one of her nurses connected with the devil; that she would get excited, and once boxed witness' ears without provocation. Against all this proof of insanity during this period—

* An Official Report of the Cause Célèbre, Mordaunt *v.* Mordaunt, Cole, and Johnstone, etc. London. Pp. 825, 8vo.

viz., May and June—there appeared little more than the evidence of her accoucheur, who visited her twice a day up to the 18th March, and saw her again on the 10th July. He says he did not regard her as insane at either period; that he did not see anything to indicate that her mind was wandering, or that she was not in full possession of her senses. Considering that in July he went into her room but three times, and was there each time but five minutes, it is not strange that he failed to see what was obvious enough to others. A Dr. Jones, who also saw her on the 10th July, after stating several incidents that could hardly be expected of sane people, said "he believed her mind was broken down," and "that if there should turn out to be no foundation for certain stories, he should attribute her state to excitement." This gentleman's notions of insanity were evidently not learned in any school of the prophets, judging from his statement that "puerperal insanity is a very intractable malady, and likely to last three or four years, during which there would not be the least interval of reason." Dr. Tyler Smith, who calls himself "Physician-Accoucheur to St. Mary's Hospital," endorses the opinions of the last two witnesses; and though he says he has had much experience in puerperal mania, it must certainly have been a peculiar one,—for when asked to state the signs of this disease he says he should "expect perfect loss of intellect" that would be recognized by every one.

The indications of insanity mentioned by these witnesses are too positive, too numerous, and too lifelike to leave any room for doubt. To those much conversant with insanity, they present a picture of the disease whose original may be seen any day in any hospital in the land. The last-named gentlemen would not ignore them altogether, but their version of the matter was that she was shamming; and in this notion they were joined by some of the domestics. To discuss seriously a notion so unfounded as this would be but a waste of words. It is a curious phenomenon, and one not very uncommon, that people who know the least about insanity are most ready, in actual cases, to believe it to be simulated.

Having now traced the presence of the disease back as far as May, let us look at the evidence respecting her mental condition in April and March. It is not so full and particular as might be wished. Mental derangement, if present, was not very clearly manifested in her ways and manners, while the notions that seemed like delusions might have been actual verities. And this is the predicament to which we are reduced, viz.: if the said notions are shown to be utterly groundless,—mere figments of a distempered fancy,—then the date of the disease admits of no further question; while if they are proved to be wholly or partly true, we are obliged to look for signs of insanity somewhere else, bearing in mind that the fact of her insanity does not depend on the truth or falsehood of those notions. Lady M. might have been both guilty and insane. If she had actually sinned, it is not strange that when the mind began to lose its self-control she should have proclaimed to all around her those shocking things, the thought of which had never left her, probably, for a single hour since they were done. That would be no new phase of insanity. The physicians who saw her in the early stage of the case—biassed, probably, by the fact that these statements of hers were of a kind not unfrequently made in puerperal insanity—came rather hastily to the conclusion that they were delusions, and that she was insane, thus supposing a connection where none necessarily existed. A careful examination of the circumstances will show that they may have been mistaken.

Whether Lady M.'s confessions sprung solely from a disordered imagination or not, is a question to be determined by the evidence touching the matter of fact, as in any other case. We shall not discuss it here, as it would be aside from our present purpose, which is to consider the case solely in its professional aspects. The evidence, indeed, was very strong,—strong enough, probably, apart from any confessions or any question of sanity, to have procured a divorce, had that been the issue. Our question is whether these confessions, supposing them to have referred to actual occurrences, are incompatible with the existence of insanity. One may do a sinful deed in the perfect possession of his senses, and yet to confess that deed, under certain circumstances, might be a strong indication of insanity. Was this confession of Lady M. a rational thing, induced by the motives and feelings which usually prompt confession of sin? Was it made under the conviction that her guilt had been discovered, and that she had better make a virtue of necessity by frankly confessing it herself? The evidence does not reveal one scintilla of proof that her guilt was known. Some of the servants testified to a few instances of imprudent familiarity with gentlemen, but it does not appear that they led to any scandal out of the servants' hall, even if they did there. Are we to suppose, then, that she disclosed the guilty secret under the compunctious visitings of conscience, determined to make the only reparation she could to her injured husband, and then to meet the appointed fate of the adulteress? Did she evince any penitence for her sin,—a single regret for the distress she had caused to others? Not at all. Of all that circle whose peace and happiness she had so terribly marred, she manifested the least disturbance. There remains but one solution of the problem. Under the stress of disease, deprived of foresight and self-control, distracted by the rush of violent emotion, with her perceptions so obscured and confused that the creations of fancy became mixed up with actual occurrences, this woman gave up the inmost secrets of her soul, as multitudes of insane people had done before her. Proof of this is furnished by almost every page of the record, in which is exhibited that lack of logical coherence and of the proper apprehension of the relations of cause and effect so characteristic of the insane.

Hancock, the nurse, one of the husband's witnesses, testified that, the first night after her confinement, Lady M. asked her if the child was diseased, and was assured

by her that it was not. The next night, having been comfortable during the day, she recurred to it again. "Nurse," she said, "are you sure there is no disease to be seen in this child? and did Mrs. Cadogan or Mrs. Caborn say anything?" The nurse replied, "There is nothing to see but what is common." The next night, she says, "Lady M. began talking again on the same subject. I begged her ladyship to be quiet, and told her it would make her head bad if she talked too much. She said, 'If you don't let me talk, I shall go mad; for I have something to tell you, and I must and will tell you to-night.' I offered to fetch Sir Charles, that she might tell him. She said, 'No, I will tell him another time.' She went on to say, 'This child is not Sir Charles's at all, but Lord Cole's.' I said, 'Pray, for goodness' sake, be quiet, and say no more.' She said, 'It took place the last week in June, while Sir Charles was in Norway. Lord Cole visited me the very last week in June.' I then said it was almost an impossibility that any married lady should know it was the last week in June; and she said, 'Oh, but I do know, for it was Lord Cole's.'" On the ensuing day "the child's eyes began to be bad." Whereupon Lady M. says, "I know that Sir Frederick Johnstone is a fearfully diseased man." On the next day she said to the nurse, "The time is come when the thing must be known, in consequence of the child's eyes." On the following day she said "she had tried to tell her husband, but the words seemed as if they would choke her." Two or three days afterwards "she got a little excited," says the witness, "and asked me to fetch Sir Charles up-stairs. When he came, she said to him, 'Charley, this child is not yours at all. I have been very wicked, and done very wrong with more than one person.' The same night or the next day she said to him that it was Lord Cole's child." A few days afterwards she said to witness, "Well, I have made him understand at last." The witness replied, "Suppose he goes out and makes inquiries,—what then?" "Why," said she, "there'll be an awful row." "I said," continues the witness, "'Whatever you do, send for Sir Charles, and don't let it go any farther.' She said, 'I shall humble myself to no man.' I said, 'What are you going to do?' She said, 'I have not made up my mind.' About two in the morning she woke me, and said, 'I can see it all quite plain now. I have quite made up my mind as to what I shall do: I am going to be poorly, or something else; Sir Charles and my father must make it all right, and I shall go abroad as soon as I can get well.'" When it was decided to send for another physician to see the child's eyes, she asked witness to give the child laudanum, "because, if the strange doctor came into the house, all would be found out."

Such irrelevant, thoughtless, absurd expressions, in the very crisis of a fate that might have appalled the stoutest heart, are inexplicable on any theory that supposes her to have possessed a sound mind. Even if she believed that the child had contracted a disease which she had received from Sir F. Johnstone, the apparent fact would not necessarily have implied to others criminal conduct on her part. Her own vaginal ailment had been pronounced by her own physician to be not specific, and her husband had made no complaint. Thus her case was strong enough to save her, if not from suspicion, at least from the degradation of convicted guilt. How little she was truly conscious of the tremendous consequences of her statements is abundantly apparent. At the very time she made them, she said to the vicar's wife, "I did it only once or twice in London. I'll soon make it right with Charley." Subsequently she seemed to have some faint idea of the damage her confessions had done her. She said to the vicar, 25th April, "Charley will not be able to prove the nonsense that I spoke; and if I were able to see him, I think I could set the matter right." Previously to this she had written to her nurse, "Pray say nothing more about the nonsense I talked when you were here." It is a well-known trait of insanity that in those casual liftings of the cloud that sometimes mark its course, the patient recognizes the consequences, if not the utter groundlessness, of his statements. But it does not appear that Lady Mordaunt, at any time, could understand why her confessions could cause separation from her husband. Is any stronger proof of insanity required than this fact, that a woman, born and educated in one of the highest social circles in England, could suppose that she might commit the unpardonable sin of woman without being driven forever from her husband's presence?

The indications of mental disease at this early period, though confessedly obscure, were clear enough to convince Sir James Y. Simpson and Dr. Tuke, who saw her in March, that she was suffering from puerperal mania, which belief, so far as the latter was concerned, was quite independent of her confessions. Although her discourse betrayed no obvious aberration, and she appeared to her servants as rational as ever, and even to her physician, yet the evidence furnishes proof enough that her mind was not in its normal state, to say the least of it. On the night of her confinement she declared, "If you don't let me talk, I shall go mad." "On the 6th March," said a witness, "she seemed to be wandering. She seemed in great distress of mind. She seemed to be in a rapt state." Her mother is reported to have said, on this occasion, "Oh, she is only hysterical, as her sister was at her confinement." Dr. Jones, who saw her on the 10th March, while he declares she was not suffering from insanity, admits that "there was an hysterical condition arising from mental emotion." On the 10th March, Sir Charles wrote to his wife's mother, as follows: "Harriet has not been quite so well since I last wrote. She has been hysterical and rather nervous and excitable, but without fever. Dr. Orford says there is no cause for anxiety,—that it will pass off." The reporter adds that other letters of a similar import, written by Sir Charles to other members of the family, were read. "They described Lady M.," he says, "as nervous and excitable; as incapable of understanding what was passing about her; of not knowing him, or those in attendance on her; and of forgetting all about

the baby, whose condition was spoken of as so bad—blindness being threatened—that all hoped for its death." It appears, too, that her physician visited her twice a day from the time of her confinement till the 18th March. Vague and indefinite as much of this testimony is, it may be fairly inferred from it that from the very beginning Lady M. was in an abnormal state of mind. True, setting aside the confessions, the symptoms of bodily or mental disease were not very demonstrative; and the same may be said of most cases during the first few days, or what is called the incubation, of the disease. It is not common, certainly, in puerperal or any other form of acute mania, for gross, persistent delusions to make their appearance as the first and almost only indication of mental disturbance, but it is not so far from the line of ordinary occurrences as to be regarded as impossible. There is nothing in the history of puerperal mania that would warrant us in disbelieving, against reasonable proof, that it might be ushered in in this manner.

Here the question of Lady M.'s mental condition, for all legal purposes, is closed. She is shown to have been insane from the period of her confinement until after the 30th April, and these confessions to have been prompted by none of the motives or sentiments which ordinarily lead men to confess their sins. Yet, notwithstanding, it does not necessarily follow, as has been already remarked, that they referred to imaginary occurrences. But it appears that the Prince of Wales and Sir Frederick Johnstone, both of whom she said had been partners of her guilt, declared on oath, in court, that they were innocent. We may be bound to believe what they say, and conclude that, so far as they are concerned, she was laboring under a delusion. But Lord Cole, whom she charged with being the father of her child, has never declared his innocence; and this, under the circumstances, is equivalent to a confession of guilt. It is scarcely possible that, if he were innocent, he would have failed to follow the example of the other gentlemen, and thus to relieve both himself and the lady of the infamy of their position.

This, then, seems to have been the true state of the case. Lady M., the moment she came within the shadow of that eclipse that was soon to darken her whole mind, began to give audible utterance to the predominant thought of her soul. Nothing is more likely—judging from our knowledge of the mental movements in disease—than that it should have been uttered. Nor is it strange that, in the confusion of ideas which often marks the opening scenes of insanity, the line between the subjective and the objective was completely effaced, and that she believed that those with whom she had sinned in her heart had also committed the overt act. There is nothing in the history of insanity, or in the circumstances of this particular case, opposed to this view; while it furnishes an explanation of what is quite inexplicable in any other way.

Dr. Tuke puzzles us exceedingly by his opinion that Lady M. was suffering, in April, "from puerperal insanity, and also catalepsy." Catalepsy is something that could be neither overlooked nor mistaken for something else, and it must have been observed by the attendants as well as by the doctors. So important a point as this would hardly fail to appear in the evidence of the nurses and servants; and yet not a syllable respecting it is to be found in their examination. Dr. Tuke is not a man to make groundless or careless statements on the witness-stand or anywhere else; while it is possible that the reporter, after the manner of his kind, may have taken such liberties with the evidence as seemed best to meet his ideas of what it should have been. But still we are puzzled. Nor can we understand how a man who has seen so much mental disease as Dr. Tuke should have so readily concluded that Lady M.'s confessions were, in every particular, the offspring of delusion. Surely he must have observed that the insane, under such circumstances, often utter some surprising truths, though mixed, perhaps, with falsehood and nonsense. Delusions like those of Lady M. are common with the subjects of puerperal mania; but this is scarcely ground enough for his conclusion that her statements were wholly and unequivocally delusions.

REVIEWS AND BOOK NOTICES.

THE PRACTICE OF MEDICINE. By THOMAS HAWKES TANNER, M.D., F.L.S., Member of the Royal College of Physicians, etc. Fifth American, from the Sixth London Edition. Enlarged and thoroughly revised. Pp. 1200. Philadelphia, Lindsay & Blakiston, 1870.

In this edition of Dr. Tanner's already excellent work we have at once the most comprehensive and best treatise which is available to the student of medicine, and perhaps to the general practitioner as well. For, covering not only the entire subject-matter usually comprehended in works on the practice of medicine, but diseases of women and venereal diseases also, the single volume becomes the repertory in which everything may be found. Nor do we think this comprehensiveness is at the sacrifice of sufficient attention to individual subjects for the *student*, since the book is one of twelve hundred large octavo pages; though we should hope that no *practitioner* will confine himself to any single volume in seeking information with regard to a special disease. It is, in almost every sense, thoroughly revised and enlarged, even to the adoption of the new chemical nomenclature, which, we are sorry to say, has not been much taught in American schools as yet. We could wish, also, that the French system of measures had been adopted in this, as in every other scientific treatise, since it is the only philosophical system, which, recently adopted in Germany, we trust will soon be the only one employed in this country; and it is clearly the duty of teachers and writers to take the initiative, losing no opportunity to impress upon students the necessity of early relying upon it and renouncing all others.

The subject of renal diseases seems to us too summarily handled by Dr. Tanner, and we scarcely think it has received, in so large a volume, the proportion of space its importance would seem to demand.

The volume is printed and bound in the handsome style which has deservedly rendered its publishers so distinguished.

A GUIDE TO THE EXAMINATION OF THE URINE. FOR THE PRACTITIONER AND STUDENT. By J. WICKHAM LEGG, M.D., Member of the Royal College of Physicians, etc. Second Edition. Philadelphia, Lindsay & Blakiston, 1870.

This is a useful and convenient hand-book, quite deserving the success which the first edition has met. In one or two instances, however, there is a vagueness about directions given

for certain tests, which makes it appear as though they were intended to be read by some careless reader, but not followed as guides. This is the case with the method of detecting the bile-acids, represented by Dr. Legg as that of Hoppe. The difficulty was personally experienced in attempting to determine the presence of bile-acids in urine, according to the directions as there laid down. Not only is this the case, however, but Dr. Legg has further erred in attributing this test to Hoppe, whose test is much more complicated, but at the same time more delicate, enabling the smallest quantity to be with certainty detected. The method of Dr. Felix Hoppe was first published in *Virchow's Archiv.*, vol. xiii., and again in *Beale's Archives of Medicine*, vol. i. p. 346, and is correctly given on pp. 234, 235 of the last edition of Beale's Kidney Diseases and Urinary Deposits, and on p. 916 of Aitkin's Practice, vol. ii. It is correctly printed on p. 286 of Hassall's Urine in Health and Disease, except that it is there stated that the acid should be from time to time *removed*, instead of *renewed*. Such errors should not be found in books which are to be placed in the hands of students. There may possibly be a second method by Hoppe, but we are not aware of its existence.

Die Pflanzen-Stoffe in chemischer, physiologischer, pharmakologischer und toxicologischer Hinsicht. Erste und Zweite Lieferung. (The Active Principles of Plants in their Chemical, Physiological, Pharmacological, and Toxicological Relations. Parts I. and II.) By Dr. Aug. Husemann and Dr. Theod. Husemann. Berlin, 1870.

We commend this book to all interested in the study of pharmacy and the physiological action of the vegetable materia medica. To the advanced student of these matters, its chief interest will lie in the very excellent lists of papers given under the various headings. The authors' knowledge of Continental and British medical literature appears to be very thorough; but their American references are curiously incomplete, and apparently have been taken at second hand. Thus, whilst the paper of Mitchell, Morehouse, and Keen, in the *American Journal of Medical Sciences*, on the relations of opium and belladonna, is referred to without its title being given, no allusion is made to the earlier memoir of Dr. Norris on the same subject, in the same journal, nor is there any notice of the valuable contribution of Dr. Da Costa to our knowledge of the physiological action of narcein. On reviewing the exceedingly slender amount of real original matter which has been, until very lately, contributed by the American medical profession, the ignorance shown by the best Europeans of American medical literature ceases to be a source of wonder; but there is no doubt that the activity manifested here of late years will soon force its results upon their attention. Thus, a knowledge of what has been done in this city alone would, we conceive, cause our authors to entirely rewrite their remarks upon Veratrum viride.

BOOKS AND PAMPHLETS RECEIVED.

A Treatise on Medical Electricity. By J. Althaus, M.D. Second Edition. London, Longmans & Co.; and Philadelphia, Lindsay & Blakiston, 1870. 12mo, pp. 676.

A Practical Treatise on the Diseases of Children. By J. Forsyth Meigs, M.D., and William Pepper, M.D. Fourth Edition. Philadelphia, Lindsay & Blakiston, 1870. 8vo, pp. 921.

Handbook of Medical Microscopy. By J. G. Richardson, M.D. Philadelphia, J. B. Lippincott & Co., 1870. 12mo, pp. 333.

A Descriptive Catalogue of the New Syd. Soc. Atlas of Skin Diseases. London, 1869. From Lindsay & Blakiston.

The Physician's Visiting List for 1871 (twentieth year). Philadelphia, Lindsay & Blakiston.

It is stated in many of the journals of the day, medical and secular, that a society has been formed in Paris, the members of which are to bequeath their bodies for dissection, in order to the furtherance of anatomical knowledge.

GLEANINGS FROM OUR EXCHANGES.

Pathological Effects upon the Brain and Spinal Cord in Men exposed to the Action of a Largely Increased Atmospheric Pressure. Louis Bauer, M.D. (*St. Louis Med. and Surg. Jour.*, vol. vii., N. S., May 10, 1870, p. 234.)—In the course of the construction of a bridge across the Mississippi River, the workmen engaged in laying the piers were exposed, in an "air-chamber," to an atmosphere of two or three times its normal weight. This caused certain disturbances of circulation and respiration. But still more marked symptoms were caused by the rapid transition from this atmosphere to the outside air. These symptoms were hyperæsthesia, with a sensation of numbness, over the lower extremities, with more or less complete paraplegia. This loss of power varied from slight paresis to complete paralysis with loss of reflex action. There were also, in some cases, spasms of the affected muscles, neuralgic pains in the limbs, and a sense of constriction around the trunk. The bladder was usually paralyzed, and the urine soon became alkaline. The hyperæsthesia soon disappeared, and was in some cases followed by complete loss of sensibility. About twenty-five cases occurred; a few recovered within a week; others were under treatment a month before recovery; some still remained palsied at the time of the report; and four died. The autopsies showed marked congestion of the vessels of the cerebral and spinal meninges, subarachnoid œdema, excess of cerebro-spinal fluid, and softening and congestion of both brain and spinal cord. In one case, inflammatory softening of the cord had so far advanced that it was reduced to a pulp for an extent of two inches, corresponding to the lower dorsal vertebræ. Microscopical examination showed numbers of compound granule cells in the softened parts of the spinal cord. The author regards the milder cases as due to spinal congestion; while in the more marked cases the disease advances to inflammatory irritation of the spinal cord and of its membranes.

Effects of Compressed Air.—Dr. G. von Liebig (*Medical Press and Circular*, June 30, 1869, p. 549) has recently completed some experiments on this subject, and has thus summed up his conclusions:

1. The number of respirations under the effects of a high pressure, and after the subject has become accustomed to this condition of respiration, do not differ much from those produced under ordinary circumstances.

2. The quantity of air respired does not differ much under the various modes of respiration.

3. The quantity of CO_2 eliminated under the two conditions is nearly identical.

Pathology of Addison's Disease.—Dr. O. Risel, of Halle (*Deutsch. Arch. Klin. f. Med.*, Bd. vii. Heft 1, Feb. 1870), at the close of a valuable paper of thirty-three pages on this subject, gives the following résumé:

"The results of extirpation, and also the course of numerous cases of disease, of the suprarenal capsules show undoubtedly that in man, provided the disease do not pass beyond the capsules, not only can the capsules be totally destroyed without harm, but also often without any symptoms whatever.

"Addison's disease is dependent on a pathological process—almost invariably tubercular inflammation—in the suprarenal capsules, which occasions disease in the nerves lying about the cœliac artery, viz.: the cœliac plexus and the semilunar ganglion, and probably, also, the superior mesenteric plexus. * * * *

"Diseases of the cœliac plexus are produced independently of disease of the suprarenal capsule, and in connection with disease of other neighboring organs (*e.g.*, pancreas), and probably also spontaneously.

"So far as is known, the disease of the sympathetic depends on an inflammatory increase in the connective tissue surrounding the nerve-fibres and ganglionic cells, and on the changes which follow both in the connective tissue and the nervous elements.

"Since a retrogressive metamorphosis of the inflammatory growth, before the nervous element proper is involved, can

restore the original condition of things, the possibility of recovery from Addison's disease is quite conceivable.

"The disease of the solar plexus manifests itself especially by paralysis of its vaso-motor fibres, which leads to considerable massing of blood in the abdominal vessels, and to corresponding anæmia elsewhere. This abnormal distribution of the blood produces symptoms which are more or less analogous to those of collapse and the symptoms of anæmia of the nervous centres. The production of the symptoms of cerebral anæmia is assisted by the development of a secondary alteration in the blood,—at present not well understood,—which is very probably the occasion of the bronzed skin."

ADDISON'S DISEASE.—M. Wolff (*Berl. Klin. Wochenschr.*, No. 17, 1869, and *Arch. Gén. de Méd.*, Mai, 1870, p. 604) reports three cases, two of which are accompanied by post-mortem examinations. In the two fatal cases the symptoms characteristic of this singular affection were present; in the third the symptoms were less typical, and there were, in addition, marked muscular rigidity and continuous, though irregular, fever. In one of the fatal cases both suprarenal capsules had undergone caseous degeneration; in the other the left capsule alone was so diseased, the right one being healthy. The ganglia of the abdominal sympathetic were carefully examined in one case. The nerves of the solar plexus, the semilunar ganglia, and the nerve-fibres going to the suprarenal capsules were enveloped in a thick and resisting sheath of connective tissue. Some nerves of the solar plexus presented ovoid enlargements before entering the semilunar ganglia. On microscopic examination, the neurilemma of the nerve-fibres and the connective tissue of the ganglia were hypertrophied, but both the nerve-cells and nerve-fibres were perfectly healthy.

SUPPLEMENTARY SERIES OF AORTIC VALVES.—At a recent meeting of the Pathological Society of London (*Med. Times and Gaz.*, April 2, 1870), Dr. Payne exhibited a specimen of unusual interest. On the left ventricular surface of the septum cordis, about a quarter of an inch under the aortic valves, were three membranous, imperfect valves, one, three-eighths, and one-fourth inch long respectively, two being at the same level, the third under the second. The longest was slightly concave downwards, the other two were horse-shoe shaped. They were continuous with the endocardium, and "precisely resembled valves." At certain points they were adherent to the endocardium.

AMŒBOID MOVEMENT OF PIGMENT CELLS.—Dr. Saviotti, of Turin (*Lancet*, May 28, 1870), has confirmed Cohnheim's remarkable researches by the observation of the reverse process, viz., the entrance of pigment cells into the capillaries. While observing the phenomena of inflammation in the web of the frog's foot, he observed the massing of the pigment cells around the vessels, and finally, after a few hours, their disappearance by penetrating the capillary walls by their amœboid movements.

As complementary to Cohnheim's researches, and in their bearing on the absorption of solid matters, these observations are of the utmost importance.

REPRODUCTION OF THE SPINAL CORD IN THE FROG.—MM. Masius and Van Lair (*Month. Micros. Jour.*, May 1, 1870, p. 236) have recently removed sections of the spinal cord, from one to two millimetres in length, from frogs. Only those experiments were successful which were made during the winter,—that is, from November to the end of February; and little frogs, full of life, were selected, great age seeming to interfere with the results. It was found that at the end of six months the healing was complete, and all the functions had returned in the following order: First the spontaneous fibrillary movements in the thighs, then voluntary movement of the whole of the thigh, extending gradually to the knee and the foot. The perceptive sensibility only appeared more slowly, and sensibility and the power of reflex motion were the last to present themselves. The autopsy and the microscopical examination of the reproduced portion showed that the end of the cord in front of the section was a little swollen, as in the case of nerves that have been divided; the posterior end was rounded, and between the two ends there was a substance, at first gelatinous, in which they found multipolar nerve-cells, and nerve-fibres in the form of Remak's fibres and varicose fibres. The cells appeared before the fibres. They found also, in this gelatinous mass, and in the two ends of the cord, near the point of section, nerve-cells in a state of pigmentary degeneration.

THE MILK OF OPPOSITE BREASTS.—At a meeting of the Académie des Sciences of Paris, a paper was recently read by M. Sourdat on "The Unequal Production and Difference in Composition of the Milk of the two Breasts of the same Woman." These results (reported in the *Archives Générales*, Aug. 1870, p. 242, and the *Med. Times and Gaz.* for August) are as follows: 1. The composition of the milk of the same woman, taking both breasts together, compared day by day, is very variable, without any appreciable change in the state of health. This change may be caused by temporary fatigue, slight alteration of diet, or a retention of milk in the breasts. In eight analyses the weight of the dry residue varied from 10·10 to 13·70 per cent.; the density, from 0·981 to 1·031. 2. The composition of the milk varied in the two breasts, and that at the same time. Thus, that of the right breast, which is more abundant, is also more rich in fixed matters, in the ratio of :: 1·20 : 1 for the minimum to :: 1·74 : 1 for the maximum. 3. Under these conditions the butter is generally secreted in far larger quantities by the right breast than by the left, viz.: :: 1·50 : 1 for a minimum, and :: 9 : 1 for a maximum. The mere appearance of the two milks exhibits this marked difference. 4. The nitrogenized matters, caseine and albumen, are also secreted in larger quantities, :: 1·90 : 1 being the maximum. 5. The soluble principles, sugar of milk and salts, in five analyses, are very nearly alike in the two breasts; and in two analyses in which there was a slight difference, this was found in favor of the side having the least butter.

ON THE INFLUENCE OF ALCOHOL, MORPHIA, CHLOROFORM, AND CHLORAL UPON THE TEMPERATURE OF THE BRAIN. By DR. MENDEL (*Virchow's Archives*, April 16, 1870).—The method of experimentation employed by Dr. M. was to introduce a thermometer into the rectum and fix it there, and a second within the skull through an opening made by a trephine, so as to allow comparisons to be made between the two. The results attained are as follows:

Chloroform.—1. It depresses the general temperature of the body, but more distinctly in cats than in dogs.

2. This depression is often preceded by an increase in the temperature, which is almost certainly owing to the struggles of the animal.

3. This depression is much more marked in the temperature of the head, so that the difference between the two thermometers is greatly increased.

4. In those cases in which the chloroform failed to narcotize, no such increase of the difference between the two instruments occurred.

Chloral.—With this the general fall of temperature was not so marked and positive as with chloroform, but there was the same relatively greater depression of the cephalic temperature, and consequent increase in the difference of the two thermometers.

Morphia.—Large doses of morphia, given hypodermically, depressed very distinctly the general, and much more so the cephalic, temperature, precisely as the other agents.

Alcohol.—This drug was given, by the mouth or hypodermically, in sufficient quantities to induce evident drunkenness. A diminution of the general temperature was induced, but the cephalic temperature relatively to that of the body was increased, so that the difference between them was lessened, and not unfrequently the cephalic temperature became the greater of the two.

Dr. M. believes this comparative, and often actual, increase of brain-temperature is due partly to a paralysis of the cephalic sympathetic, and partly to a stimulation of tissue-change in the nerve-centres by the alcohol. In the case of the other substances used, he thinks the reverse occurs.

CONIUM MACULATUM.—In a paper in the *Boston Med. and Surg. Journal* of June 30, 1870, Dr. Leonard Wheeler states

that he has found Squibb's fluid extract, Succus conii, *Br. Ph.*, and Conia the only at all reliable preparations of this drug. The first of these is made from unripe seeds by the process of repercolation without heat, and therefore ought to be efficient. One drachm of it scarcely equals in effect two-thirds of a minim of the alkaloid. He corroborates the well-known fact that all of our officinal preparations vie with one another in worthlessness. The author has found that when hypodermic injections of conia are given to a frog, placed on a frog plate under the microscope, the circulation of the web of the foot is first slowed and then arrested, but that the calibre of the vessels is unaffected. He corroborates the axiom of Harley that hemlock must be given in such doses as will develop unmistakably its peculiar physiological effects if good is to be produced by it.

Raw Meat in the Diarrhœa of Children.—Dr. Robert Druitt (*Med. Times and Gaz.*, July 2, 1870) highly recommends this practice of Trousseau. A tidbit of the loin of mutton or of the fillet of beef is submitted to a process of scraping and pounding, so as to get out all the red, soft muscular substance as free as possible from all fat and fibre. The muscular substance so prepared forms a soft pink pulp, giving no feeling of resistance when squeezed between the fingers. A good-sized piece of meat will yield very little of this pulp by comparison with the parts that are rejected. Young infants suck it greedily from the ends of the nurse's fingers; but older children, from two to five years old, will require it to be dusted with sugar. In the dyspepsia, atrophy, and malnutrition of children and of adults, and in the vomiting of pregnancy, it is excellent. To adults this meat pulp should be administered suspended in strong beef-tea, or it may be diffused in stiff meat jelly.

Excision of the Knee-Joint. By M. Pénières (*Archives Générales de Médecine*, Mai, 1870).—In his inaugural thesis, M. Pénières has collected 431 cases of excision of the knee-joint for white swelling, of which, including those subjected to subsequent amputation and re-excision, 131 were fatal. Of the 300 recoveries, 47 underwent consecutive amputation and 6 re-excision; while of the 247 recoveries in which no subsequent operation was required the result is noted as very good in 166, and as bad in 27. Of the entire number of cases,—431,—subsequent amputation was performed in 61, with 14 deaths, and re-excision in 10, with 4 deaths.

The results of the operation relatively to the age of the patient were as follows:

	No.	Cures.	Deaths.	Percentage.
From 1 to 5 years,	18	11	7	38·8
" 5 " 10 "	84	71	13	15·4
" 10 " 15 "	74	60	14	18·9
" 15 " 20 "	61	41	20	32·7
" 20 " 25 "	56	36	20	35·7
" 25 " 30 "	58	39	19	37·2
" 30 " 40 "	42	23	19	45·2
Above 40 years,	17	9	8	47·

The cause of death is specified in 89 instances, from which it would appear to have been due to pyæmia in 33, phthisis in 12, exhaustion in 17, hemorrhage in 13, meningitis in 3, phlebitis in 3, osteomyelitis in 1, shock in 1, and visceral complications in 6.

In regard to the operation itself, the author agrees with Mr. Butcher and Mr. Price on the advantages to be derived from the ablation of the patella, since it not only abridges the duration of treatment, but diminishes the risk of a fatal issue by nearly one-third, while its retention more than doubles the chances of secondary amputation. M. Pénières terminates his thesis by advising resection in preference to amputation for white swelling of the knee between the ages of 5 and 35 years, provided there be no complications, when the lesions are limited to the articular extremities of the bones, and when the disease is of comparatively recent standing.

Induction of Labor in a Case of Deformed Pelvis. (*London Lancet*, June 18, 1870.)—A woman with a deformed pelvis, measuring only two and a half inches in the conjugate diameter, had lost six children in the birth, either through craniotomy or by the too early induction of premature labor. In the following pregnancy, Dr. Poole induced labor in the middle of the seventh month, by introducing into the womb two-thirds of a flexible gum catheter, and by dilating the os, next day, with Barnes' dilators. The right knee presented, which was leisurely guided downwards until the umbilicus reached the vulva. Two assistants now pressed forcibly on the vertex, through the abdominal wall, whilst the doctor, at the same time, pulled on the legs. The cervix uteri descended with the head to the vulva, thus diminishing, by its thickness, the antero-posterior diameter to two and a quarter inches. Yet the child was rapidly delivered, and breathed and cried freely, after half an hour's assiduous attention.

Transfusion in the Asphyxia of a New-born Child.—Dr. De Belina (*Gazette Médicale*, No. 2, 1870) gives the details, as follows: A Russian lady, in the eighth month of pregnancy, was roughly shaken by a railroad accident. Labor setting in, she was conducted to the nearest hotel, and Dr. B. called in. Strong pains soon came on, and the head was born, with the neck surrounded by two turns of the cord. Finding it impossible to slip the cord off, he hastened to terminate labor by cutting it. Unfortunately, the shoulders were delayed so long that the child was born blue and asphyxiated, with very feeble heart-beats. For ten minutes he resorted to all the ordinary methods for restoring the child, but the pulsations grew feebler and feebler, and he resolved to try transfusion. Taking the blood flowing away from the placenta, he defibrinated it by whipping it with a whalebone stick, and injected about an ounce into the umbilical vein by means of a small glass syringe. The child shuddered, drew a long breath, commenced to respire regularly, and is now nearly a year old.

Muscular Power of the Uterus in Parturition.—Prof. Haughton (*Med. Press and Circular*) shows that the expulsive force of the uterus required in dilating the os in the first stage of labor is equal to 3·4 pounds on the square inch. This conclusion is very similar to the one of Dr. Matthews Duncan, who proved by experiments that a force of 3·1 pounds on the square inch was necessary for the rupture of the membranes. When, however, the natural expulsive power of the uterus is aided by the voluntary efforts of the woman, the force thus obtained is enormously augmented, being equal to 42 pounds on the square inch, which would represent a force of 593 pounds exerted upon the child to extrude it.

Treatment of Croup.—In an exceedingly interesting letter to Prof. A. Jacobi, Prof. Fordyce Barker (*American Journal of Obstetrics*, May, 1870) makes this remarkable statement: that "no burial certificate of mine can be found of death from croup in the mortuary records of the Health Board of this city" (New York); and attributes this success to the promptness and method of his treatment. Immediately upon the outbreak of croupy symptoms, his patients are instructed—before sending for him—to give at once an emetic of turpeth mineral (hydrargyri sulphas flava) in doses of three to five grains, to be repeated in fifteen minutes if it does not act. If, upon his arrival, he finds evidences simply of catarrhal laryngitis, he relies on opiates, such as Tully's or Dover's powder, or the Brown Mixture of the U. S. Disp. If, however, there are fever, hot skin, ringing cough, and hurried breathing without thoracic râles, he gives the tinct. Verat. virid. every two hours in one- or two-drop doses. Should these symptoms grow worse, indicating that the disease is extending downwards, he combines two grains of the carbonate of ammonia with each dose of the Verat. virid., and occasionally repeats, on the second or third day, the emetic of turpeth mineral, if the laryngeal or tracheal obstruction increases. In advanced stages, when the respiration is hurried and irregular, the paroxysms of cough less marked, the intermissions less distinct, and the cough husky instead of ringing, he gives *large* doses of quinine, as in the following mixture:

℞. Mist. acaciæ,
Syrp. senegæ, āā ℥j.
Quiniæ sulph.,
Ammoniæ carb., āā ℥ss.
M. S. To be well shaken. A teaspoonful every fourth hour.

MISCELLANY.

A HARD CASE.—For many years the seamen of our merchant marine have been taxed twenty cents per month each, as hospital money,—the understanding being that such payment entitled them, when sick, to medical treatment in hospital, to be settled for by the collector of the port or his agent, at certain specified rates. Most of the men, as is well known, are without homes except in boarding-houses; and they are especially apt to become the subjects of venereal disease. By a recent order, however, cases of this class are excluded from the benefits of the hospital fund, and so are all other cases, except those of disease or injury contracted or sustained while the patients were actually on a ship's books. A man may be a seaman for twenty or thirty years, paying his hospital money all that time; but if, the day after he is paid off for his last cruise, he breaks his leg, he is considered to have no claim upon the collector of the port. If he goes to a hospital, it is as a charity patient. Should he contract venereal disease, he must either pay his own way afresh, or become palpably a pauper by entering the wards of an almshouse. So far as any benefit to himself is concerned, he might as well have dropped his hospital money over the ship's side. There may be another side to the question, but it seems to us that the seamen have just grounds for complaint.

A PECULIAR PEOPLE.—There is a sect, the chief seat of which appears to be in the county of Essex, in England, who believe that they ought not to interfere in cases of sickness, except by prayer and other religious services. Several times persons holding this view have been brought before courts, charged with causing the death of their children by neglecting to provide them with proper medical attendance. A similar idea has, we believe, prevailed at various times among small bodies of religionists. What decision, if any, was arrived at in the courts in the cases referred to, we are not informed.

NEW YORK TUMOR DISPENSARY.—We learn that on the 1st of September, 1870, an incorporated and chartered institution bearing the above title was opened in New York city. It is situated at No. 37 West Thirtieth Street, and will be conducted by the following gentlemen: Attending Surgeon, Dr. J. Albert Hagy; Consulting Surgeons, Drs. T. Addis Emmet and J. C. Nott. We are not informed of any of the details of its organization, but understand that it has a number of wealthy and influential supporters.

IT is very much to be hoped that the really brilliant success of the conversazione given in May last at the hall of the College of Physicians, in this city, under the auspices of the Biological and Microscopical Section of the Academy of Natural Sciences, may be followed up by similar entertainments during the coming season. The advantage of thus bringing together, as guests of the cultivators of physical science, a large number of the intelligent and highly educated members of the community, can scarcely be overestimated.

COMPULSORY VACCINATION.—The prejudice against vaccination would seem to be much deeper and more general in England than in this country; or perhaps it is brought into readier notice by the more stringent efforts made by the authorities to compel the adoption of that safeguard. Cases are mentioned in the journals, secular as well as medical, in which parents have submitted to repeated fines for neglecting the vaccination of their children, and have avowed their determination to resist to the very last. The slight basis upon which the prejudice rests may be easily seen from the vast number of vaccinations performed, and yet the exceedingly small number of instances in which there is any show of evidence that other diseases have been communicated through this channel.

MUTTER LECTURESHIP.—No appointment has as yet been made by the College of Physicians to fill the vacancy left by the resignation of Dr. Brinton. It would be a great pity if this plan of developing medical science, which has been so richly productive abroad, and especially in England, should fail here; and yet fail it must, unless men of ability are found to lecture, and appreciative audiences are ready to listen to them.

MODERN SURGERY.—An illustration of the advance in surgery made in the present century may be found in the fact that the operator who first successfully tied the internal iliac artery for aneurism, Dr. Stevens, died only two years ago. Dr. S., who then lived in the West Indies, was only twenty-six years of age, in 1812, when he achieved this feat. Nine other operations of the kind, performed since, are upon record, with four successes, so that the proportion of deaths is only fifty per cent.,—a singularly favorable showing for so grave a procedure.

APPOINTMENT.—Dr. Harrison Allen has been elected one of the attending surgeons to the Philadelphia Hospital at Blockley, to fill the vacancy caused by the resignation of Dr. R. J. Levis.

MAIMED PENSIONERS.—The books of the U. S. Pension Office show that of the soldiers drawing pensions, 5006 have lost one arm, 4627 one leg, 350 both arms, 42 both legs, and 21 an arm and a leg.

"THE PHOTOGRAPHIC REVIEW OF MEDICINE AND SURGERY."—We have received a prospectus of this new periodical, which will be issued every alternate month by Messrs. J. B. Lippincott & Co., under the editorship of Drs. F. F. Maury and L. A. Duhring. Each number will contain four photographic representations of disease, with letter-press notes of the cases. Some of the ablest members of the profession in this city have promised their support to the enterprise, which we trust will prove a success. The editors will select, from the cases sent to them, those best suited to this mode of illustration. The first number will be issued in the course of a few days.

MORTALITY OF PHILADELPHIA.—The following statements are condensed from the Health Office Reports:

	For the week ending				
	Sept. 3.	Sept. 10.	Sept. 17.	Sept. 24.	Oct. 1.
Diseases of the Brain and Nervous System	50	45	29	46	49
Diseases of the Organs of Circulation and Respiration	70	61	76	70	70
Diseases of the Abdominal Organs	103	93	81	79	59
Zymotic Diseases	25	13	31	19	18
Constitutional Diseases	43	45	36	24	31
Casualties	16	7	16	10	12
Stillborn	21	11	7	13	18
Unclassified	7	3	1	3	12
Unknown	0	3	2	1	1
Adults	131	132	143	127	119
Minors	204	149	136	138	151
Totals	335	281	279	265	270